

II. CLAIM AMENDMENTS

1. (Currently Amended) A data transmission system for switching a call to a terminal in an aircraft over a satellite link, which system comprises:

a terminal to be used in an aircraft;

a terrestrial network ;

a satellite link between the aircraft and the terrestrial network, ~~wherein said system comprises means for interleaving at least two calls on the same satellite channel;~~

a first network element on the ground between the terrestrial network and the satellite link;

a second network element in the aircraft between the satellite link and the terminal of the aircraft, ~~and that~~

~~at lease~~ least one of said first and second network elements comprises said means for interleaving at least two calls on the same satellite channel, ~~and~~

in the aircraft a short range radio frequency connection between said second network element and the terminal of the aircraft.

2. (Cancelled)

3. (Previously Presented) A system according to claim 1, wherein at least one of said first and second network elements is arranged to open a data transmission connection on a channel of the satellite link according as there is information to be transmitted and to close said data transmission connection when there is no information to be transmitted.

4. (Previously Presented) A system according to claim 1, wherein said terrestrial network comprises a mobile communication network, which comprises a gateway-mobile services switching centre functionally connected to said first network element and a terminal of the mobile communication network, and that said terminal of the mobile communication network comprises means for establishing a connection to said second network element for acting as a terminal of the aircraft.

5. (Previously Presented) A system according to claim 1, wherein said means for interleaving calls is a multiplexer, which is arranged to time division multiplex at least two calls on the same channel of the satellite link.

6. (Previously Presented) A system according to claim 1, wherein said satellite link comprises speech channels for transferring calls and a separate signalling channel for transferring the signalling related to a plurality of calls on said signalling channel, and the system comprises means for transferring calls on a speech channel of the satellite link and for transferring the signalling data on a plurality of calls to said plurality of calls on a common signalling channel of the satellite link.

7.(Original) A system according to claim 6, wherein the signalling data of all the calls to be transferred by the satellite link are transferred on said common signalling channel.

8. (Previously Presented) A system according to claim 4, wherein said first network element comprises means for receiving signals from the gateway-mobile services switching centre and for transmitting to the gateway-mobile services switching centre.

9. (Previously Presented) A system according to claim 8, wherein the system comprises a first unit responsible for the control of the satellite link, and said first and second network elements both comprise means for receiving signals from the first unit responsible for the control of the satellite link and for transmitting to the first unit responsible for the control of the satellite link.

10. (Previously Presented) A system according to claim 9, wherein said first network element comprises means for initiating the opening and closing of a channel of the satellite link on the basis of signals received from the gatewaymobile services switching centre.

11. (Previously Presented) A system according to claim 9, wherein said second network element comprises means for initiating the opening and closing of the satellite link on the basis of signals received from the terminal of the aircraft through the satellite link.

12. (Previously Presented) A system according to claim 4, wherein the system comprises means for maintaining the data transmission connection between said first network element and the gateway-mobile services switching centre in the packet-switched mode.

13. (Currently Amended) A system according to claim 1, wherein said second network element comprises means for receiving signals from the terminal of the aircraft and for transmitting to said terminal.

14. (Previously Presented) A system according to claim 13, wherein the system comprises in the aircraft a second unit responsible for the control of the satellite link, and said second network element comprises means for receiving signals from the second unit responsible for the control of the satellite link and for transmitting to the second unit responsible for the control of the satellite link.

15. (Previously Presented) A system according to claim 13, wherein said second network element comprises means for initiating the opening and closing of the satellite link on the basis of signals received from the terminal of the aircraft.

16. (Cancelled)

17. (Currently Amended) A system according to claim 1-16, wherein the system comprises a plurality of aircraft and on the ground a server that is in connection with said first network element

for controlling the connections of the aircraft group formed of the plurality of aircraft.

18. (Currently Amended) A system according to claim 4, wherein said first network element comprises a bridge functionality for adapting the ~~protocol~~ protocol of the mobile communication system for a satellite link.

19. (Previously Presented) A system according to claim 13, wherein said second network element comprises means for collecting and storing in-flight management data.

20. (Previously Presented) A system according to claim 19, wherein said second network element comprises means for transmitting the in-flight management data through a satellite link to a gateway-mobile services switching centre.

21. (Previously Presented) A system according to claim 4, wherein said second network element comprises means for identifying terminals of a mobile communication network registered in an aircraft and for transmitting the identification data of the terminals to a gateway-mobile services switching centre for switching the incoming calls to a terminal through a satellite link to the terminal located in the aircraft.

22. (Currently Amended) A system according to claim 1, wherein the data transmission on the channel of the satellite link is circuit-switched, and data transmission between the first network

element and the terrestrial network, as well as the second network element and the terminal is packet-switched.

23. (Currently Amended) A system according to claim 1-16, wherein said terminal is a dual-mode terminal of a mobile communication system, which in addition to said short range connection is adapted to communicate over a connection of the mobile communication system.

24. (Currently Amended) A network element that is in connection with a satellite link for switching a call on a channel of the satellite link, which network element comprises:

means for receiving information from the satellite link and for transmitting to the satellite link, ~~wherein said network element comprises~~

means for interleaving at least two calls on the same channel of the satellite link; and

~~means for receiving signals from a unit responsible for the control of the satellite link, and for transmitting to the unit responsible for the control of the satellite link; and means for connecting the network element to a terrestrial network, as well as for receiving signals from the terrestrial network and for transmitting to the terrestrial network~~ connecting the network element in a functional connection to a terminal of an aircraft for receiving signals from and for transmitting to the terminal utilizing

a short range radio frequency connection between the network element and the terminal of the aircraft.

25. (Cancelled)

26. (Previously Presented) A network element according to claim 24, wherein said network element comprises means for connecting the network element in a functional connection to a terminal of an aircraft for receiving signals from said terminal and for transmitting to said terminal; and means for receiving signals from a unit of an aircraft responsible for the control of the satellite link, and for transmitting to the unit of the aircraft responsible for the control of the satellite link.

27. (Currently Amended) A method for switching a call to a terminal in an aircraft over a satellite link, wherein at least two calls are interleaved on the same channel of the satellite link, and using a short range radio frequency connection to link a network element to said terminal.

28. (Currently Amended) A method according to claim 27, wherein at least two ~~calls~~ calls are time division multiplexed on the same channel of the satellite link.

29. (Previously Presented) A method according to claim 27, wherein the method comprises:

transferring the calls on a call channel of the satellite link;

and

the signalling data of a plurality of calls are transferred to said plurality of calls on a common signalling channel of the satellite link.

30. (Previously Presented) A method according to claim 29, wherein there are a plurality of call channels and the signalling data of all the calls transferred over the satellite link are transferred on said common signalling channel.

31. (Currently Amended) A method for switching a call to a terminal in an aircraft over a satellite link, ~~wherein at least two calls are interleaved on the same channel of the satellite link,~~ the method comprising:

transmitting information relating to a call between a terrestrial network and the satellite link through a first network element located on the ground,

transmitting information relating to a call between the satellite link and the terminal of the aircraft through a second network element located in the aircraft,

interleaving at least two calls on the same channel of the satellite link,

carrying out said interleaving by at least one network element of said first and second network elements as said at least one network element has information relating to at least two calls to be transmitted towards the satellite link, and-

utilizing a short range radio frequency connection between the second network element and the terminal of the aircraft.

32. (Previously Presented) A method according to claim 31, wherein at least two calls are time division multiplexed on the same channel of the satellite link.

33. (Previously Presented) A method according to claim 31, wherein the method comprises:

transferring calls on a call channel of the satellite link,

and

the signalling of a plurality of calls are transferred to said plurality of calls on a common signalling channel of the satellite link.

34. (Currently Amended) A method according to claim 31, wherein there are a plurality of call channels and the signalling data of all the calls transferred over the satellite link are transferred on said ~~common signalling~~ same channel.